

What is claimed is:

1. An ion beam irradiation device comprising:
a holder supporting a substrate; and
an ion beam source that is a predetermined distance from the substrate and inclined to be substantially parallel with the substrate and that irradiates the substrate with an ion beam.
2. The ion beam irradiation device according to claim 1, wherein the ion beam source comprises:
an ionizer that ionizes injected gas into ions and electrons;
a discharger that discharges the ions as the ion beam; and
an accelerator that accelerates the discharged ion beam towards the substrate.
3. The ion beam irradiation device according to claim 2, wherein the accelerator is substantially parallel with the substrate.
4. The ion beam irradiation device according to claim 2, wherein the discharger is substantially parallel with the substrate.
5. The ion beam irradiation device according to claim 2, wherein the ionizer is substantially parallel with the substrate.
6. The ion beam irradiation device according to claim 2, wherein the discharger and the accelerator are substantially parallel with the substrate and the ionizer inclined at an angle substantially different from the accelerator and discharger.
7. The ion beam irradiation device according to claim 1, wherein the substrate

comprises an alignment layer formed on a surface thereof.

8. The ion beam irradiation device according to claim 1, wherein the ion beam is formed from an inert gas selected from the group consisting of Ar, Kr, and Xe.

9. The ion beam irradiation device according to claim 1, wherein the ion beam is discharged from the ion beam source at an angle with respect to a direction normal to the ion beam source, and the angle corresponds to an incline angle of the substrate.

10. The ion beam irradiation device according to claim 1, wherein the ion beam is discharged from the ion beam source at an angle with respect to a direction normal to the ion beam source, and the angle is identical to an incline angle of the substrate.

11. The ion beam irradiation device according to claim 1, wherein the ion beam irradiates the substrate at an angle of about 40°-50°.

12. The ion beam irradiation device according to claim 1, wherein the ion beam irradiates the substrate at an angle of about 40°-60°.

13. The ion beam irradiation device according to claim 1, wherein the ion beam irradiates the substrate at an angle of about 10°-20°.

14. A method of irradiating a substrate with an ion beam comprising:

supporting a substrate with an alignment layer at a first angle;

producing ion beams to irradiate the whole substrate with ions, wherein the ion beams strike the substrate with the same angle and energy across the substrate, and wherein the ion beams all travel substantially the same distance.

15. The method according to claim 14, wherein producing ion beams comprises:

ionizing an injected gas into ions and electrons;

discharging the ions as the ion beams; and

accelerating the discharged ion beams towards the substrate.

16. The method according to claim 14, wherein the injected gas is selected from the group of Ar, Kr, and Xe.

17. The method according to claim 14, wherein the ion beam irradiates the substrate at an angle of about 40°-50°.

18. The method according to claim 14, wherein the ion beam irradiates the substrate at an angle of about 40°-60°.

19. The method according to claim 14, wherein the ion beam irradiates the substrate at an angle of about 10°-20°.